OS02G10 2-megapixel product brief

Full HD Image Sensor for Mainstream Security Cameras Requiring Excellent Low-Light Pixel Performance

lead free

available in a lead-free package

OmniVision's OS02G10 image sensor provides the best value for mainstream, high-volume security cameras requiring 1080p resolution and excellent low-light pixel performance. It offers consumer IoT security cameras best-in-class low-light image captures with improved SNR1 and reduced power consumption. This industry-leading performance is accomplished via a 2.8 micron pixel built on the OmniPixel®3-HS architecture, which provides high quantum efficiency and an optimal signal-to-noise ratio.

Compared with our prior-generation mainstream security sensor, the OS02G10 has a 60% better SNR1 and 40% lower power consumption. This improved low-light performance provides greater value in the popular 1/2.9"optical format.

We are using 12" wafers to produce the OS02G10, instead of the 8" wafers that are often in tight supply but are typically used for 2MP, 1080p sensors. This enables us to better address the increasing demand for this resolution, which remains the most popular in the steadily growing market for consumer-grade, IoT security cameras, as well as low-end industrial and commercial surveillance cameras.

The OS02G10 also features a 15-degree CRA, which is compatible with a broad range of widely available lenses. This sensor also offers an integrated dynamic defective pixel correction algorithm for optimal image quality, and a two-lane MIPI interface. It provides 2MP, 1080p resolution at 30 frames per second.

Find out more at www.ovt.com.

OmniVision.

Applications

- Security Surveillance Systems
- IP Cameras
- HD Analog Cameras

OS02G10

Ordering Information

- **OS02G10-A41A-001A-Z** (color, lead-free)
  41-pin CSP

Product Features

- programmable controls:
  - frame rate
  - mirror and flip
  - cropping
  - windowing
- supports 2x2 color binning function
- supports output formats:
  - 10-bit RAW RGB
- SCCB control interface for register programming
- supports MIPI 2-lane serial output interface
- supports DVP 12-bit output interface
- supports image sizes:
  - 1920 x 1080 @ 30 fps
- supports automatic black level calibration
- supports multi-camera synchronous function

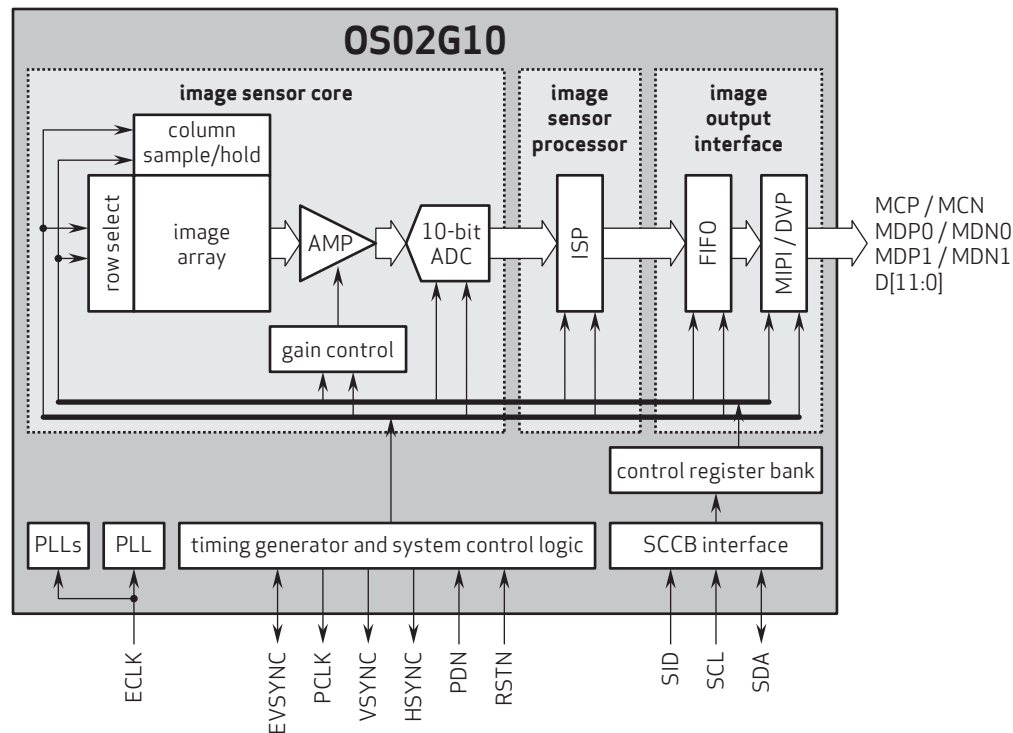## Technical Specifications

- **active array size:** 1920 x 1080
- **maximum image transfer rate:**
  - **1080p:** 30 fps
- **power supply:**
  - **analog:** 2.8V
  - **I/O:** 1.8/2.8V
  - **core:** 1.5V
- **power requirements:**
  - **active:** 115 mW
- **output interfaces:**
  MIPI 2-lane / DVP 12-bit
- **temperature range:**
  - **operating:** -30°C to +85°C junction temperature
  - **stable image:** -20°C to +60°C junction temperature
- **output formats:** RAW RGB
- **lens size:** 1/2.9"
- **lens chief ray angle:** 15° linear
- **shutter:** rolling
- **pixel size:** 2.8 µm x 2.8 µm
- **image area:** 5398.4 µm x 3046.4 µm

Functional Block Diagram